

From: Crystal Bazyk <crystal.bazyk@deq.virginia.gov>
Sent: Monday, November 8, 2021 5:42 AM
To: Susan Blalock
Subject: FW: EMO - 21 1101 - Hall (EPA) - Bristol (Reg# 11184) - 10/31/2021 Status Report
Attachments: Bristol - Construction Bid Drawings 2.5-Sheet 3A - Proposed Layout.pdf

Importance: High

From: Don Marickovich <dmarickovich@daa.com>
Sent: Monday, November 1, 2021 7:52 PM
To: hall.kristen@epa.gov; Crystal Bazyk <crystal.bazyk@deq.virginia.gov>
Cc: Randall Eads <CityManager@bristolva.org>; John Paul Jones <john.jones@bristolva.org>; Sam Hess <sam.hess@bristolva.org>; Wallace McCulloch <wallace.mcculloch@bristolva.org>; zac.mitchell@bristolva.org; Ernie Hoch <ehoch@daa.com>; Anthony Tomlin <atomlin@daa.com>; Cynthia Garrett <cgarrett@daa.com>
Subject: EMO - 21 1101 - Hall (EPA) - Bristol (Reg# 11184) - 10/31/2021 Status Report
Importance: High

Ms. Hall and Ms. Bazyk,

In accordance with EPA’s letter, “Approval of Higher Operating Temperature Values of Landfill Gas Wells and Submission of Gas Treatment Alternatives at the Bristol Virginia Integrated Solid Waste Facility” from August 2021, I am providing the October 31, 2021 status report on the existing wells and the well drilling operations.

Existing Well Temperatures

During August, September and October 2021, existing wells 39, 37, 40, 46, and 47 were monitored periodically for temperature. Monitoring results are provided in the tables below. Temperatures marked as “ok” were below the 131-degree (55-degree Celsius) threshold. Overall, the temperatures have remained relatively consistent. Gas wells 39 and 37 had remained below 131-degrees whereas wells 40, 46 and 47 remain above the 131-degree level. However, starting on October 21st, gas well 37 went above 131-degrees and has stayed around 145-degrees.

Temperature Data (Fahrenheit)																									
Gas Well	August Monitoring Dates																								
	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	18	19	21	23	24	25	27	28	30	31
39	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
37	104.4	100.1	99.5	100.8	107.8	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
40	156.5	165.8	165.7	170.5	172.6	171.5	172.5	176.3	173.1	175.2	183.8	178	175.5	177.6	176.5	163.8	162.9	94.8	84.6	69.1	72.1	70.4	72.2	96.5	86.3
46	183.2	184.7	181.3	182.3	183.4	184	184.9	170.3	168.6	179.8	186.7	178.6	172.6	170.1	183.8	183.4	181.5	183	167.1	178.2	181.7	148.6	168.1	172.6	170.8
47	194.3	196.5	196.9	197.3	196.4	194.8	195.6	195.9	195.1	195.7	195.9	197.5	197.2	196.5	194.2	194.7	194.3	194.8	193.3	193.1	193.4	190.5	178.7	178.6	180.3

Temperature Data (Fahrenheit)																									
Gas Well	September Monitoring Dates																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
39	ok	ok	ok	ok			ok	ok	ok	ok	ok		ok	ok	ok	ok				ok	ok	ok	ok	ok	

37	ok	ok	ok	ok			ok	ok	ok	ok	ok		ok	ok	ok	ok				ok	ok	ok	ok	ok	
40	94.8	117.5	118.2	121.4			135.5	142.6	157.3	162.5	174.7		178.8	178.6	175.3	173.7				110.4	112.8	145.5	147.9	146.3	
46	145.9	175.3	176.9	177.5			187.7	188.6	187.5	187.2	184.8		183.6	181.3	178.3	180.7				181.2	181.7	182.3	181.9	182.4	
47	179.4	180.2	180.7	179.3			190.2	194.5	192.6	188.2	182.5		178.2	183.5	187.2	184.8				184.5	185.3	186.4	187.3	185.2	

Temperature Data (Fahrenheit)																									
Gas Well	September/October Monitoring Dates																								
	26	27	28	29	30	10/1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
39		ok	ok	ok	ok	ok			ok	ok	ok		ok			ok		ok	ok	ok	ok		ok	ok	120.5
37		ok	ok	ok	ok	ok			ok	ok	ok		ok			ok		ok	ok	ok	ok		ok	ok	ok
40		152.5	154.7	151.5	157.2	162.4			161.4	158.9	159.4		158.1			160.2		159.9	161.6	161.1	161		160.8	158.8	157.7
46		182.7	180.3	179.5	180.2	184.3			184.9	183.2	183.7		180.2			182.5		181.4	182.1	183.4	181.4		175.2	171.3	161.1
47		189.4	188.3	187.2	186.9	187.2			187.3	188.5	188.7		186.9			187.3		186.8	188.4	187.1	186.9		186.9	187.1	186.3

Temperature Data (Fahrenheit)																									
Gas Well	September/October Monitoring Dates																								
	21	22	23	24	25	26	27	28	29	30	31														
39	121.6	119.6	120.6		121.1	119.4	117.7	116.6	118.3																
37	147	144.6	145.8		146.3	146.8	146.3	145.9	144.8																
40	147.1	148.4	147.2		145.7	144.5	141.8	139.9	140.7																
46	166.8	182.1	182.7		183.4	184.9	184.4	184.7	183.4																
47	185.8	185.3	186.5		187.1	187.4	185.7	185.5	184.7																

Aptim was contracted to install new wells. Well drilling began September 10, 2021. Approximately one well per day was drilled and installed; with stoppages due to mechanical issues. A total of 17 wells had initially been planned to be installed. However, as the drilling proceeded, the City decided to install 4 additional wells; 66, 67, 68, and 32R for a total of 21. The as-built locations of all 21 wells are shown on the attached drawing.

Below is the summary of the gas wells Installed (gas well layout is attached to this email):

Summary of Gas Well Installation							
Gas Well	September/October 2021						
	Date Installed	Design Depth (ft)	Actual Depth (ft)	Max. Waste Temp. (°F)	Decomposition	Water Content	Comments
49	10/4/2021	120	110	162	High	Wet	Hit Refusal
50	9/24/2021	120	96	151	High	Wet	Hit Refusal
51	9/21/2021	120	114	150	High	Wet	Hit Refusal
52	9/22/2021	120	108.7	149	High	Wet	Hit Refusal
53	9/15/2021	120	91	148	High	Wet	Hit Refusal
54	9/16/2021	120	91	169	High	Wet	Hit Refusal

55	9/29/2021	120	104	151	High	wet	Hit Refusal
56	9/25/2021	120	109	150	High	Wet	Hit Refusal
57	9/20/2021	120	103	148	High	Wet	Hit Refusal
58	9/27/2021	120	92	146	High	Wet	Hit Refusal
59	9/17/2021	120	72	147	High	Wet	Hit Refusal
60	9/30/2021	120	120	152	High	Wet	Design Depth
61	10/1/2021	120	105	175	High	Wet	Hit Refusal
62	10/13/2021	120	120	168	High	Wet	Design Depth
63	10/12/2021	117	110	141	High	Wet	Hit Refusal
64	10/2/2021	120	120	158	High	Wet	Design Depth
65	10/11/2021	120	100	142	High	Wet	Hit Refusal
66	10/7/2021	120	102	142	High	Wet	Hit Refusal
67	10/8/2021	120	100	156	High	Wet	Hit Refusal
68	10/15/2021	120	75	133	High	Wet	Hit Refusal
32R	10/14/2021	120	120	168	High	Dry	Design Depth

Drilling operations were completed on October 15th. Bristol Va has accepted bids and awarded a contract to expand the gas collection system to connect these 21 new wells. Construction is expected to begin during the week of November 1st and is expected to take 40 days.

The next bi-weekly status report will be provided by November 15, 2021. If you have any questions on the information provided, please, contact Mr. Ernest Hoch at (540) 537-0404 or via email at ehoch@daa.com.

Thank you,
Don Marickovich

Senior Design Engineer
Draper Aden Associates
Engineering • Surveying • Environmental Services
Lasting Positive Impact®

Phone: 757.300.2608 • Mobile: 757.837.5206

